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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/857,759	09/10/2001	Susan Joy Cooper	JMYT-239US	9843

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RATNERPRESTIA  
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VALLEY FORGE, PA 19482-0980

EXAMINER

DOVE, TRACY MAE

ART UNIT	PAPER NUMBER
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1745

DATE MAILED: 12/12/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/857,759

Applicant(s)

COOPER ET AL.

Examiner

Tracy Dove

Art Unit

1745

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED. (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 25 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 September 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. §§ 119 and 120**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other: \_\_\_\_\_

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### **DETAILED ACTION**

This Office Action is in response to the communication filed on 9/25/03. Applicant's arguments have been considered, but are moot in view of the new grounds of rejection. This Action is made Non-Final.

#### ***Claim Objections***

All objections to the claims have been withdrawn.

#### ***Claim Rejections - 35 USC § 112***

All 35 U.S.C. 112 rejections have been withdrawn.

#### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

#### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-10, 12-15, 17 and 18 are rejected under 35 U.S.C. 102(b)/35 U.S.C. 103(a) as being anticipated by, and alternatively unpatentable over, Wilkinson et al., US 5,795,669, as evidenced by Katz et al., US 4,552,857.

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Wilkinson teaches an electrode comprising a first catalytic component active at gas-phase reaction sites and a second catalytic component active at electrochemical reaction sites wherein each catalytic component is present either as a separate layer, a single mixed layer or a combination of a separate layer and a single mixed layer. The electrode has improved tolerance to poisons such as carbon monoxide (abstract). The first and second catalytic components are arranged such that the reactant gas stream first contacts the first catalytic component and thereafter contacts the second catalytic component. The catalytic components may be the same or different catalyst materials and are independently selected from the group consisting of platinum group metals, gold, silver, base metals, base metal oxides and alloys or mixtures of one or more of these metals. The platinum group metals are platinum, palladium, rhodium, iridium, ruthenium and osmium. In one embodiment the first catalytic component is platinum and the second catalytic component is a mixture of platinum/ruthenium (col. 5, lines 22-35). Wilkinson teaches that the first catalytic component may be platinum alloyed or mixed with a base metal or a base metal oxide. The first and second components may be in ionic contact (col. 5, lines 45-64). The catalyst layers were applied to a carbon fiber paper substrate (gas diffusion material) (Example 1). The catalyst layers are located between the substrate and a solid polymer electrolyte (col. 6, lines 32-40). Wilkinson teaches a MEA comprising the electrode and a PEMFC comprising the MEA (col. 6, lines 15-19). Both tungsten (W) and molybdenum (Mo) are base metals. This is evidenced by Katz which teaches a base metal catalyst such as Co, Ni, Mo, molybdate or tungstate (col. 3, lines 14-19).

Thus the claims are anticipated.

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The claims are alternatively unpatentable because it is unclear if the reference teaches the claimed invention with "sufficient specificity". Wilkinson does not have a specific teaching where the first catalytic component is Pt-Y, wherein Y is Mo, W or an oxide of Mo or W. However, the invention as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made because Wilkinson teaches the catalytic components may be the same or different catalyst materials and are independently selected from the group consisting of platinum group metals, gold, silver, base metals, base metal oxides and *alloys or mixtures of one or more of these metals*. Base metals include Co, Ni, Mo, molybdate or tungstate (col. 3, lines 14-19 of Katz). Thus, Wilkinson at least suggests the first catalytic component may have the formula Pt-Y wherein Y is Mo, W or an oxide of Mo or W (base metals or base metal oxides). One of skill in the art would have found it obvious to substitute Pt-Y wherein Y is Mo, W or an oxide of Mo or W (base metals or base metal oxides) for the first catalytic component of Pt alone because Wilkinson teaches and suggests that platinum may be alloyed or mixed with a base metal or a base metal oxide.

Regarding claims 2, 12 and 18, Wilkinson teaches that the first catalytic component may comprise platinum group metals, gold, silver, base metals, base metal oxides and *alloys or mixtures of one or more of these metals*. Thus, Wilkinson at least suggests the first catalytic component may have the formula Pt-Y-X wherein Y is Mo, W or an oxide of Mo or W (base metals or base metal oxides) and X is Ru, Rh, Ni or Co. Ru and Rh are platinum group metals and Ni and Co are base metals. One of skill in the art would have found it obvious to substitute Pt-Y-X wherein Y is Mo, W or an oxide of Mo or W (base metals or base metal oxides) and X is Ru, Rh, Ni or Co for the first catalytic component of Pt alone because Wilkinson teaches and

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suggests that platinum may be alloyed or mixed with at least one of a base metal, a base metal oxide and/or another platinum group metal.

Note the question of "sufficient specificity" is similar to that of "clearly envisaging" a species from a generic teaching. A 35 U.S.C. 102 /103 combination rejection is permitted if it is unclear if the reference teaches the range with "sufficient specificity." See MPEP 2131.03.

### ***Response to Arguments***

Applicant's arguments with respect to the pending claims have been considered but are moot in view of the new ground(s) of rejection.

Note the Examiner called Applicant on 12/4/03 to propose adding the limitation "wherein the first and second catalytic components are not in physical contact" to claims 1 and 10. However, after further consideration by the Examiner, this limitation does not appear to be supported by the specification as filed. Examiner apologizes for any inconvenience caused by this proposal.

The indication of allowable subject matter for claims 8, 13 and 15 has been withdrawn. Newly applied prior art has been used to reject claims 8, 13 and 15.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Giallombardo et al. 6,165,636 teaches platinum-molybdenum alloys for use as electrode catalysts for fuel cells.

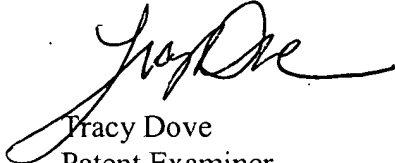
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tracy Dove whose telephone number is (703) 308-8821. The

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Examiner may normally be reached Monday-Thursday (9:00 AM-7:30 PM). My supervisor is Pat Ryan, who can be reached at (703) 308-2383. The Art Unit receptionist can be reached at (703) 308-0661 and the official fax numbers are 703-872-9310 (after non-final) and 703-872-9311 (after final).



Tracy Dove  
Patent Examiner  
Technology Center 1700  
Art Unit 1745

December 9, 2003